# tifr

**School of Mathematics
Tata Institute of Fundamental Research**

25 June, 2024

## VV 2024 Colloquium

Speaker      :   *Eknath Ghate*

Affiliation    :   *TIFR, Mumbai*

Title          :   *Modular Endomorphism Algebras*

Date & Time :   *Monday, 01 July, 2024 at 4:00 pm*

Venue        :   **Lecture Theatre (AG-66)**

### Abstract

Modular forms show up in many areas of Number Theory. Each nice modular form has a geometric object attached to it such as an abelian variety or a motive. In this talk we will study the algebra of endomorphisms of this geometric object.

For instance, this algebra is known to be a crossed-product algebra and as such defines an element in the Brauer group of a certain number field. We give several results which describe the Brauer class almost completely.

These results were first proved by Momose and Ribet and then by myself and my coauthors (Brown, González-Jiménez, Quer, Banerjee and Bhattacharya) about a decade ago.

Milind Pilankar